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EXAMINER	
MILORD, MARCEAU	
ART UNIT	PAPER NUMBER
2682	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/695,715	ROFOUGARAN ET AL.	
	Examiner	Art Unit	
	Marceau Milord	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *164-221* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *164-169,171-177,182-187,189-195,198-204,206-216 and 218-221* is/are rejected.

7)☒ Claim(s) *170,178-181,188,196,197,205 and 217* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 164-169, 171-1777, 182-187, 189-195, 198-204, 206-216, 218-221 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elder et al (US Patent No 6167246) in view of Wu et al (US Patent No 4710970) and Ang et al (US Patent No 5457716).

Regarding claim 164, Elder et al discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), comprising: a transmitter including, a tunable oscillator (9 of fig. 1) having a tuning input, a mixer (2 of fig. 1) having a first input coupled to the oscillator (col. 3, lines 27-45), a second input, and an output (col. 1, lines 31-65), and a phase detector (23 of fig.2), a second input, and an output coupled to the tuning input (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65) and a local oscillator coupled to the second input of the mixer (col. 2, lines 17-65 ;col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

However, Elder et al does not specifically disclose the feature of a phase detector having a first input coupled to the mixer output.

On the other hand, Wu et al, from the same field of endeavor, discloses a UHF transmission frequency oscillator that generates a UHF radio signal that is frequency modulated by a program signal. A voltage controlled VHF radio signal generator produces a VHF signal frequency modulated by the program signal. A phase detector receives the frequency difference signal and the VHF signal frequency modulated by the program signal and applies a voltage to the control voltage input of the UHF transmission frequency oscillator for the transmission of a UHF radio frequency signal modulated by the program signal (col. 2, lines 33- 63; col. 4, lines 13-67). Furthermore, Wu et al shows in figure 4, a phase comparator that compares the frequency of the integral sub-frequency input signal applied to the input to produce a control signal proportional to the difference between the frequencies of the integral sub-frequency and the integral sub-frequency and the integral reference sub-frequency signals (col. 7, line 2- col. 8, line 27).

Ang et al also shows in figure 4, a signal that is coupled to the input of an RF amplifier, which amplifies and filters the received signal to remove undesired out of band energy, and which generates an amplified signal which is coupled to a first input of a quadrature channel mixer and a first input of an in-phase mixer. A second input of the I channel mixer is coupled to an output of the controllable local oscillator which is generated by a voltage controlled oscillator .A second input of the Q channel mixer is also coupled to the output of the controllable local oscillator but through a 90 degrees phase shift network (col. 5, line 51- col. 6, line 49). The outputs of mixers are coupled to low pass filters, which filter out undesirable RF components of

the converted signal. The address detector generates an address detection signal when a predetermined address portion of the buffered data signal clocked into the address detector by the bit clock signal is matched by the address detector to one of one or more predetermined selective call addresses. The address detection signal is coupled to a fourth input of the frequency correction generator (fig. 4; col. 7, line 55- col. 8, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ang to the modified system of Wu and Elder in order to provide a method for generating low noise, FM radio transmission signals with low harmonic distortion.

Regarding claim 165, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the oscillator comprises a voltage controlled oscillator (col. 5, lines 13-37).

Regarding claim 166, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the transmitter further comprises a bandpass filter coupled between the mixer output and the first input of the phase detector (col. 6, lines 41-65).

Regarding claim 167, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the transmitter further comprises a limiter coupled between the bandpass filter and the first input of the phase detector (col. 6, lines 17-65).

Regarding claim 168, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the transmitter further comprises a charge pump coupled between the phase detector output and the tuning input of the oscillator (col. 6, line 50- col. 7, line 30).

Regarding claim 169, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the transmitter further comprises a loop filter coupled between the phase detector output and the oscillator tuning input (col. 6, lines 42-65; col. 8, lines 15-45).

Regarding claim 171, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the mixer comprises a sub-sampling mixer (col. 3, lines 27-45).

Regarding claim 172, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the mixer comprises a track and hold circuit coupled to the inputs of the mixer and the output of the mixer, and a bandpass circuit coupled to the first input of the mixer and the output of the mixer (col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

Regarding claim 173, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the mixer further comprises an input circuit disposed between the first input of the mixer and the track and hold circuit (col. 3, lines 27-45).

Regarding claim 174, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the mixer further comprises a buffer disposed between the track and hold circuit and the output of the mixer (col. 3, lines 27-45).

Regarding claim 175, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the bandpass circuit comprises an inductor coupled to the first input of the mixer and a capacitor coupled to the output of the mixer (col. 3, lines 27-45; col. 10, line 27- col. 11, line 26).

Regarding claim 176, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the track and hold circuit comprises a switch between the first input of the mixer and the output of the mixer, the switch being adapted for control by a signal applied to the second input of the mixer from the local oscillator (col. 10, line 40- col.. 11, line 31).

Regarding claim 177, Elder et al as modified discloses a complimentary metal oxide semiconductor integrated circuit (figs. 1-2), wherein the switch comprises a transistor having a gate coupled to the second input of the mixer, a source coupled to the first input of the mixer, and a drain, and wherein the bandpass circuit comprises a capacitor coupled to the drain, and an inductor coupled to the source (col. 5, line 17- col. 6, line 45; col. 10, line 40- col.. 11, line 31).

Regarding claim 182, Elder et al discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input, a sub-sampling mixer having a first input coupled the oscillator, a second input, and an output (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65) a second input, and an output coupled to the tuning input; and a local oscillator coupled to the second input of the mixer (col. 2, lines 17-65;col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

However, Elder et al does not specifically disclose the feature of a phase detector having a first input coupled to the mixer output.

On the other hand, Wu et al, from the same field of endeavor, discloses a UHF transmission frequency oscillator that generates a UHF radio signal that is frequency modulated by a program signal. A voltage controlled VHF radio signal generator produces a VHF signal frequency modulated by the program signal. A phase detector receives the frequency difference

signal and the VHF signal frequency modulated by the program signal and applies a voltage to the control voltage input of the UHF transmission frequency oscillator for the transmission of a UHF radio frequency signal modulated by the program signal (col. 2, lines 33- 63; col. 4, lines 13-67). Furthermore, Wu et al shows in figure 4, a phase comparator that compares the frequency of the integral sub-frequency input signal applied to the input to produce a control signal proportional to the difference between the frequencies of the integral sub-frequency and the integral sub-frequency and the integral reference sub-frequency signals (col. 7, line 2- col. 8, line 27).

Ang et al also shows in figure 4, a signal that is coupled to the input of an RF amplifier, which amplifies and filters the received signal to remove undesired out of band energy, and which generates an amplified signal which is coupled to a first input of a quadrature channel mixer and a first input of an in-phase mixer. A second input of the I channel mixer is coupled to an output of the controllable local oscillator which is generated by a voltage controlled oscillator .A second input of the Q channel mixer is also coupled to the output of the controllable local oscillator but through a 90 degrees phase shift network (col. 5, line 51- col. 6, line 49). The outputs of mixers are coupled to low pass filters, which filter out undesirable RF components of the converted signal. The address detector generates an address detection signal when a predetermined address portion of the buffered data signal clocked into the address detector by the bit clock signal is matched by the address detector to one of one or more predetermined selective call addresses. The address detection signal is coupled to a fourth input of the frequency correction generator (fig. 4; col. 7, line 55- col. 8, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the

technique of Ang to the modified system of Wu and Elder in order to provide a method for generating low noise, FM radio transmission signals with low harmonic distortion..

Regarding claim 183, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the oscillator comprises a voltage-controlled oscillator (col. 3, lines 27-45).

Regarding claim 184, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the transmitter further comprises a bandpass filter coupled between the sub-sampling mixer output and the first input of the phase detector (col. 6, line 42- col. 7, line 47).

Regarding claim 185, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the transmitter further comprises a limiter coupled between the bandpass filter and the first input of the phase detector (col. 6, line 42- col. 7, line 47).

Regarding claim 186, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the transmitter further comprises a charge pump coupled between the phase detector output and the tuning input of the oscillator (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65).

Regarding claim 187, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the transmitter further comprises a loop filter coupled between the phase detector output and the oscillator tuning input (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65).

Regarding claim 189, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the mixer comprises a track and hold circuit coupled to the inputs of the mixer and the output of the mixer, and a bandpass circuit coupled to the first input of the mixer and the output of the mixer (col. 5, line 17- col. 6, line 45).

Regarding claim 190, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the mixer further comprises an input circuit disposed between the first input of the mixer and the track and hold circuit (col. 5, line 17- col. 6, line 45).

Regarding claim 191, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the mixer further comprises a buffer disposed between the track and hold circuit and the output of the mixer (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65).

Regarding claim 192, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the bandpass circuit comprises an inductor coupled to the first input of the mixer and a capacitor coupled to the output of the mixer (col. 10, line 40- col. 11, line 31).

Regarding claim 193, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the track and hold circuit comprises a switch between the first input of the mixer and the output of the mixer, the switch being adapted for control by a signal applied to the second input of the mixer from the local oscillator (col. 5, line 17- col. 6, line 45; col. 10, line 40- col. 11, line 31).

Regarding claim 194, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the switch comprises a transistor having a gate coupled to the second input of the mixer, a source coupled to the first input of the mixer, and a drain, and wherein the bandpass circuit comprises a capacitor coupled to the drain, and an inductor coupled to the source (col. 5, line 17- col. 6, line 45; col. 10, line 40- col. 11, line 31).

Regarding claim 195, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the capacitor and inductor cooperate to provide a time constant related to a signal frequency applied to the first input of the mixer from the tunable oscillator (col. 5, line 17- col. 6, line 45; col. 10, line 40- col.. 11, line 31).

Regarding claim 198, Elder et al as modified discloses a transmission system, comprising: a transmitter including, a tunable oscillator having a tuning input (figs. 1-2), wherein the capacitor and inductor cooperate to provide a time constant related to a signal frequency applied to the first input of the mixer from the tunable oscillator (col. 5, line 17- col. 6, line 45; col. 10, line 40- col. 11, line 31).

Regarding claim 199, Elder et al discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), comprising: first oscillator means for generating a first signal having a tunable frequency, the first oscillating means comprising tuning means for tuning the frequency of the first signal (col. 1, lines 31-65;col. 3, line 61- col. 4, line 10; col. 6, lines 17-65); mixer means for mixing the first signal with a second signal to produce a mixed signal (col. 2, lines 17-65; col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

However, Elder et al does not specifically disclose the feature of a detector means for detecting a phase difference between the mixed signal and an input signal, and generating an error signal which is a function of the phase difference, the tuning means being responsive to the error signal; and second oscillator means for generating the second signal.

On the other hand, Wu et al, from the same field of endeavor, discloses a UHF transmission frequency oscillator that generates a UHF radio signal that is frequency modulated by a program signal. A voltage controlled VHF radio signal generator produces a VHF signal frequency modulated by the program signal. A phase detector receives the frequency difference signal and the VHF signal frequency modulated by the program signal and applies a voltage to the control voltage input of the UHF transmission frequency oscillator for the transmission of a UHF radio frequency signal modulated by the program signal (col. 2, lines 33- 63; col. 4, lines 13-67). Furthermore, Wu et al shows in figure 4, a phase comparator that compares the frequency of the integral sub-frequency input signal applied to the input to produce a control signal proportional to the difference between the frequencies of the integral sub-frequency and the integral sub-frequency and the integral reference sub-frequency signals (col. 7, line 2- col. 8, line 27).

Ang et al also shows in figure 4, a signal that is coupled to the input of an RF amplifier, which amplifies and filters the received signal to remove undesired out of band energy, and which generates an amplified signal which is coupled to a first input of a quadrature channel mixer and a first input of an in-phase mixer. A second input of the I channel mixer is coupled to an output of the controllable local oscillator which is generated by a voltage controlled oscillator .A second input of the Q channel mixer is also coupled to the output of the controllable local

oscillator but through a 90 degrees phase shift network (col. 5, line 51- col. 6, line 49). The outputs of mixers are coupled to low pass filters, which filter out undesirable RF components of the converted signal. The address detector generates an address detection signal when a predetermined address portion of the buffered data signal clocked into the address detector by the bit clock signal is matched by the address detector to one of one or more predetermined selective call addresses. The address detection signal is coupled to a fourth input of the frequency correction generator (fig. 4; col. 7, line 55- col. 8, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ang to the modified system of Wu and Elder in order to provide a method for generating low noise, FM radio transmission signals with low harmonic distortion.

Regarding claim 200, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), wherein the first oscillator means comprises a voltage controlled oscillator, the tuning means being responsive to a voltage of the error signal (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65).

Regarding claim 201, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), further comprising filter means for filtering the mixed signal before being applied to the detector means, the filtered mixed signal comprising a difference frequency between the tuned frequency of the first signal and a frequency of the second signal (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65)

Regarding claim 202, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), further comprising means for limiting the filtered

mixed signal from the filter means before being applied to the detector means (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65)

Regarding claim 203, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), further comprising means for sourcing current to the tuning means responsive to the error signal (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65)

Regarding claim 204, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), further comprising means for filtering the error signal from the detecting means before being applied to the tuning means (col. 3, line 61- col. 4, line 10; col. 6, lines 17-65).

Regarding claim 206, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), wherein the mixer means comprises a sub-sampling mixer (col. 3, line 61- col. 4, line 10).

Regarding claim 207, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), wherein the sub-sampling mixer comprises track and hold means for tracking and holding the first signal in response to the second signal, and limiting means for limiting the response of the track and hold means to a frequency band, the first signal being within the frequency band (col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

Regarding claim 208, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), further comprising means for buffering first signal before being applied to the track and hold means (col. 6, line 42- col. 7, line 47).

Regarding claim 209, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2), wherein the limiting means comprises an inductor and capacitor each being coupled to the track and hold means (col. 6, line 42- col. 7, line 47).

Regarding claim 210, Elder et al as modified discloses a complimentary metal oxide semiconductor transmitter system (figs. 1-2); wherein the track and hold means comprises a switch in a path of the first signal, the switch being controlled by the second signal (col. 6, line 42- col. 7, line 47).

Regarding claim 211, Elder et al discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), the first oscillating means comprising tuning means for tuning the frequency of the first signal (col. 1, lines 31-65; col. 3, line 61- col. 4, line 10; col. 6, lines 17-65); and means for filtering the current sourced error signal from the current means before being applied to the tuning means (col. 2, lines 17-65;col. 4, lines 44-65; col. 6, line 42- col. 7, line 47).

However, Elder et al does not specifically disclose the feature of a signal from the filter means before being applied to the detector means, current means for sourcing current to the tuning means responsive to the error signal.

On the other hand, Wu et al, from the same field of endeavor, discloses a UHF transmission frequency oscillator that generates a UHF radio signal that is frequency modulated by a program signal. A voltage controlled VHF radio signal generator produces a VHF signal frequency modulated by the program signal. A phase detector receives the frequency difference signal and the VHF signal frequency modulated by the program signal and applies a voltage to the control voltage input of the UHF transmission frequency oscillator for the transmission of a

UHF radio frequency signal modulated by the program signal (col. 2, lines 33- 63; col. 4, lines 13-67). Furthermore, Wu et al shows in figure 4, a phase comparator that compares the frequency of the integral sub-frequency input signal applied to the input to produce a control signal proportional to the difference between the frequencies of the integral sub-frequency and the integral sub-frequency and the integral reference sub-frequency signals (col. 7, line 2- col. 8, line 27).

Ang et al also shows in figure 4, a signal that is coupled to the input of an RF amplifier, which amplifies and filters the received signal to remove undesired out of band energy, and which generates an amplified signal which is coupled to a first input of a quadrature channel mixer and a first input of an in-phase mixer. A second input of the I channel mixer is coupled to an output of the controllable local oscillator which is generated by a voltage controlled oscillator .A second input of the Q channel mixer is also coupled to the output of the controllable local oscillator but through a 90 degrees phase shift network (col. 5, line 51- col. 6, line 49). The outputs of mixers are coupled to low pass filters, which filter out undesirable RF components of the converted signal. The address detector generates an address detection signal when a predetermined address portion of the buffered data signal clocked into the address detector by the bit clock signal is matched by the address detector to one of one or more predetermined selective call addresses. The address detection signal is coupled to a fourth input of the frequency correction generator (fig. 4; col. 7, line 55- col. 8, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ang to the modified system of Wu and Elder in order to provide a method for generating low noise, FM radio transmission signals with low harmonic distortion.

Regarding claim 212, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), wherein the first oscillator means comprises a voltage controlled oscillator, the tuning means being responsive to a voltage of the error signal (col. 6, line 42- col. 7, line 47).

Regarding claim 213, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), wherein the second signal comprises a frequency different from the frequency of the first oscillator means (col. 2, lines 17-65;col. 4, lines 44-65).

Regarding claim 214, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), further comprising means for limiting the filtered mixed signal from the filter means before being applied to the detector means (col. 6, line 42- col. 7, line 47).

Regarding claim 215, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), further comprising means for sourcing current to the tuning means responsive to the error signal (col. 6, line 42- col. 7, line 47).

Regarding claim 216, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency (figs. 1-2), further comprising means for filtering the error signal from the detecting means before being applied to the tuning means (col. 6, line 42- col. 7, line 47).

Regarding claim 218, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency, wherein the mixer

comprises track and hold means for tracking and holding the first signal in response to the second signal, and limiting means for limiting the response of the track and hold means to a frequency band, the first signal being within the frequency band (col. 6, lines 7-65;col. 10, line 40- col. 11, line 51).

Regarding claim 219, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency, further comprising means for buffering first signal before being applied to the track and hold means (col. 5, line 17- col. 6, line 45).

Regarding claim 220, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency, wherein the limiting means comprises an inductor and capacitor each being coupled to the track and hold means (col. 5, line 17- col. 6, line 45; col. 10, line 40- col.. 11, line 31).

Regarding claim 221, Elder et al as modified discloses a transmitter system, comprising: first oscillator means for generating a first signal having a tunable frequency, wherein the track and hold means comprises a switch in a path of the first signal, the switch being controlled by the second signal (col. 6, lines 7-65;col. 10, line 40- col. 11, line 51).

Allowable Subject Matter

2. Claims 170, 178-181, 188, 196-197, 205, 217 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vuong B. Quochien can be reached on 571-272-7902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord
Primary Examiner
Art Unit 2682

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